

CLAIMS:

1. Polyvinyl alcohol binder fibers having a cross-section circularity of at most 30 %, a degree of swelling in water at 30°C of at least 100 %, and a degree of dissolution in water of at most 20 %.

2. Polyvinyl alcohol binder fibers as claimed in claim 1, which have a flattened cross-sectional profile, and satisfy $A/B \geq 3$ and $0.6 \leq C/B \leq 1.2$;

wherein

A indicates the length of the major side of the cross section,

B indicates the thickness of the center ($1/2A$) of the major side, and

C indicates the thickness of the part of $1/4A$ from the end of the major side.

3. Polyvinyl alcohol binder fibers as claimed in claim 2, wherein the thickness B of the center ($1/2A$) of the major side of the cross section is at most $6 \mu\text{m}$.

4. Polyvinyl alcohol binder fibers as claimed in claim 1, wherein the polyvinyl alcohol resin is copolymerized with from 0.1 to 15 mol% of one or more compounds having one or more groups selected from the group consisting of a carboxylic acid group, a sulfonic acid group, an ethylene group, a silane group, a silanol group, an amine group and an ammonium group.

5. Polyvinyl alcohol binder fibers as claimed in claim 1, wherein the single-fiber mean fineness of the fibers is 0.01 to 50 dtex.

6. A paper or a nonwoven fabric, comprising:

from 1 to 50 % by mass of the polyvinyl alcohol binder fibers of claim 1.

7. The paper or nonwoven fabric as claimed in claim 6, which have a flattened cross-sectional profile, and satisfy $A/B \geq 3$ and $0.6 \leq C/B \leq 1.2$;

wherein

A indicates the length of the major side of the cross section,

B indicates the thickness of the center ($1/2A$) of the major side, and

C indicates the thickness of the part of $1/4A$ from the end of the major side.

8. The paper or nonwoven fabric as claimed in claim 8, wherein the thickness B of the center (1/2A) of the major side of the cross section is at most 6 μm .

9. The paper or nonwoven fabric as claimed in claim 6, wherein the polyvinyl alcohol resin is copolymerized with from 0.1 to 15 mol% of one or more compounds having one or more groups selected from the group consisting of a carboxylic acid group, a sulfonic acid group, an ethylene group, a silane group, a silanol group, an amine group and an ammonium group.

10. The paper or nonwoven fabric as claimed in claim 6, wherein the single-fiber mean fineness of the fibers is 0.01 to 50 dtex.

11. A method for producing the polyvinyl alcohol binder fibers as claimed in claim 1, comprising:

dissolving a polyvinyl alcohol resin in water to prepare a spinning solution having a polymer concentration of from 8 to 18 % by mass,

spinning said solution into fibers in a coagulation bath that contains an aqueous solution of a salt having the ability to coagulate the resin,

drawing the fibers by 2 to 5 times in wet, and

drying the fibers.

12. The method as claimed in claim 11, wherein said salt having the ability to coagulate the resin is sodium sulfate , ammonium sulfate or sodium carbonate.